IN THE CLAIMS:

Claims 1 through 9 are currently pending in this application. Please amend Claims 1 through 5 and 7 through 9, as follows:

1. (Currently Amended) A magnetization control method, comprising:

providing at least one metal probe;

providing a substrate;

providing on the substrate a multilayer film including a first ferromagnetic metallic layer, a non-magnetic metallic middle layer formed on the first ferromagnetic metallic layer, and a second ferromagnetic metallic layer formed on the non-magnetic metallic middle layer and located facing said at least one metal probe;

controlling ~~maintaining~~ the distance between said at least one metal probe and said multilayer film ~~as substantially constant~~ so as not to contact said multilayer film;

providing an electric field between said at least one metal probe and said multilayer film to become the height of the potential barrier being effectively high or low compared with a reference value, and then recording information to the multilayer film by changing at least one direction of magnetization of said ferromagnetic metallic layers~~; and~~

~~controlling the electric field to change at least one direction of magnetization of said ferromagnetic metallic layers~~.

2. (Currently Amended) The magnetization control method according to Claim 1, further comprising providing an anti-ferromagnetic layer between the first ferromagnetic metallic layer and the substrate.

3. (Currently Amended) An information recording apparatus, comprising:

at least one metal probe,

a multilayer film including a first ferromagnetic metallic layer, a middle non-magnetic metallic layer formed on the first ferromagnetic metallic layer, and a second ferromagnetic metallic layer formed on the middle non-magnetic metallic layer and facing said at least one metal probe,

wherein the at least one metal probe is structured so that a distance between said at least one metal probe and said multilayer film is controlled ~~maintained~~

~~substantially constant~~ so as not to contact said multilayer film, and an electric field between said at least one metal probe and said multilayer film is provided to become the height of the potential barrier being effectively high or low compared with a reference value for recording information to the multilayer film corresponding to said electric field by changing at least one direction of magnetization of said ferromagnetic metallic layers ~~controlled to change at least one direction of magnetization of said ferromagnetic metallic layers for recording information corresponding to said electric field~~.

4. (Currently Amended) An information recording apparatus, comprising:

at least one metal probe,

a multilayer film comprising a first ferromagnetic metallic layer, a middle non-magnetic metallic layer formed on the first ferromagnetic metallic layer, and a second ferromagnetic metallic layer formed on the middle non-magnetic metallic layer and [[for]] facing said at least one metal probe;

wherein said at least one metal probe is structured so that a distance between said at least one metal probe and said multilayer film is controlled ~~maintained substantially constant~~ so as not to contact said multilayer film;

a controller whereby ~~wherein~~ an electric field between said at least one metal probe and said multilayer film is provided to become the height of the potential barrier being effectively high or low compared with a reference value for recording information to the multilayer film corresponding to said electric field by changing at least one direction of magnetization of said ferromagnetic metallic layers ~~controlled to change at least one direction of magnetization of said ferromagnetic metallic layers for recording information corresponding to said electric field~~;

and wherein said at least one metal probe is structured so that, between said at least one metal probe and said multilayer film, there is [[an]] applied a voltage for flowing tunnel current through to read information recorded by a change in said tunnel current corresponding to a change in a direction of magnetization due to an [[said]] electric field which corresponds to the read [[said]] information.

5. (Currently Amended) The information recording apparatus according to Claim 4, wherein

said multilayer film is formed as a disk-shaped recording medium for rotation;

said at least one metal probe is provided to oppose said multilayer film at a tip end of an arm, one end of which is rotatably supported and the other end side of which is extended to said disk-shaped recording medium;

and at the tip end of said arm, there is further provided a slider; whereby a distance between said at least one metal probe and said multilayer film is controlled ~~maintained substantially constant~~ by said slider so the at least one metal probe will not contact said multilayer film; and

wherein said at least one metal probe is structured so that an electric field between said at least one metal probe and said multilayer film is controlled to change at least one direction of magnetization of said ferromagnetic metallic layers ~~layer~~ for recording information corresponding to said electric field [[;]] .

~~and wherein aid metal probe is structured so that between said metal probe and said multilayer film, there is applied a voltage for flowing tunnel current through to read information recorded by a change in said tunnel current corresponding to a change in a direction of magnetization due to an electric field which corresponds to said information.~~

6. (Original) The information recording apparatus according to Claim 5, wherein in place of said tunnel current, information recorded by a provided GMR element or a TMR element located at the tip end of said arm is read.

7. (Currently Amended) The information recording apparatus according to Claim 4, further comprising:

a plurality of metal probes arranged at predetermined intervals in place of said at least one metal probe,

[[a]] wherein said multilayer film ~~including a ferromagnetic metallic layer, a middle non-magnetic metallic layer, and a ferromagnetic metallic layer for facing~~ faces said plurality of metal probes, and ~~wherein~~ a distance between said plurality of metal probes and said multilayer film is controlled, ~~maintained substantially constant;~~

wherein an electric field between said plurality of metal probes and said multilayer film is provided to become the height of the potential barrier being effectively high or low compared with a reference value for recording information to

the multilayer film corresponding to the electric field by changing at least one direction of magnetization of said ferromagnetic metallic layers ~~controlled to change at least one direction of magnetization of said ferromagnetic metallic layer for recording information corresponding to said electric field every one of said plurality of metal probes,~~ and [[;]]

wherein said plurality of metal probes are structured so that between said plurality of metal probes and said multilayer film, there is [[an]] applied a voltage for flowing tunnel current through to read information recorded by a change in said tunnel current corresponding to a change in a direction of magnetization due to an electric field which corresponds to the [[said]] information read by [[from]] ~~every one of~~ said plurality of metal probes.

8. (Currently Amended) The information recording apparatus according to claim 3, wherein the second ferromagnetic metallic layer of said multilayer film which faces said at least one metal probe is made into domains which have been spatially divided in units of information to be recorded.

9. (Currently Amended) The information recording apparatus according to Claim 3, further comprising providing an anti-ferromagnetic layer between the first ferromagnetic metallic layer and the substrate.